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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/518,551	03/03/2000	Govindaraju Gnanasivam	A-66977/RMA/LM	5668

7590 08/07/2002

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EXAMINER

KING, JUSTIN

ART UNIT PAPER NUMBER

2181

DATE MAILED: 08/07/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/518,551

Applicant(s)

GNANASIVAM ET AL.

Examiner

Justin I. King

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 6-10, 12-14, 16-17, and 19-23 are rejected under 35 U.S.C. 102(a) and (b) as being anticipated by the submitted prior art Microsoft® document, the “Concept and Planning: Microsoft® ‘Wolfpack’ Clustering for Windows NT® Server”.

Referring to claims 1-4, 6, 12-14, and 19-23: In the figure 1-1, Microsoft® discloses a first node (Node A), a second node (node B), a bus (SCSI bus), and a logical I/O device (Disk 1). It is inherent that each server needs a SCSI controller for its SCSI connection; therefore, the SCSI controllers of the first node and the second node are the first bus controller and second bus controller respectively.

Although a cluster is consisted of multiple computers, it is the cluster's nature and intended purpose that the cluster functions and behaviors as one single server unit. It has been a common practice for clients to share a common storage area on a server. Before any client starts editing a file located on the server, the server will check to see whether the file is currently edited and locked by others. If no one is currently editing the file, the server will reserve and lock the file for the client, and the sever will also release or unlock the file once client finishes editing.

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Since a cluster functions and behaviors as one single server unit, the cluster will inherit these server's behaviors on file management. Therefore, it is said that once a client submits an editing request or a releasing request through either the first node or the second node, the cluster will reserve or release the logical I/O device via its controllers, and the cluster will handle the request, either successful or failed, the same way as any single server unit will.

Referring to claim 7-10, 16-17: Claims 7-10, 16-17 are rejected over the Microsoft® as stated above; furthermore, the Microsoft® discloses that one or more hard disks attach to the SCSI bus(es) and some SCSI disks also store data used to manage the cluster (page 2); therefore, these disks are equivalent to the applicant's claimed computer-readable medium for storing instructions.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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5. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the submitted prior art "Concepts and Planning: Microsoft® 'Wolfpack' Clustering for Windows NT® Server" in view of the popular industrial fault-tolerance practice for servers, the RAID control.

It is known to one in the computer art that the RAID can assist servers to provide a fault-tolerance platform, and it is a common industrial practice to equip the server with a SCSI RAID control card that has embedded RAID program. The examiner has personally a hand-on experience on the Hewlett Packard's NetServer with the SCSI RAID control cards on 1996. The RAID controller configures the hard disks into different partitions, thus it is said that the multiple hard disk partitions are the multi-logical-devices, and the RAID controller is the applicant's claimed third controller.

Hence, it would have been obvious to one with ordinary skill in the computer art at the time applicant made the invention to adapt the SCSI RAID control technology into the Microsoft®'s cluster technology, because the cluster is meant to behavior as one single server unit and the SCSI RAID technology provides a fault-tolerance platform for servers.

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Conclusion

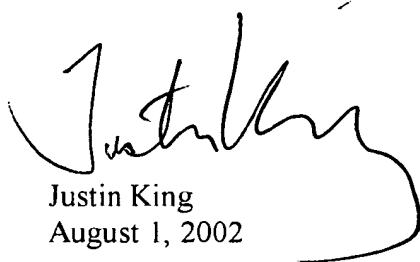
6. The prior art made of recorded and not relied upon is considered pertinent to applicant's disclosure.

"What is RAID?" by Mike Neuffer: Neuffer provides a brief introduction of the RAID.

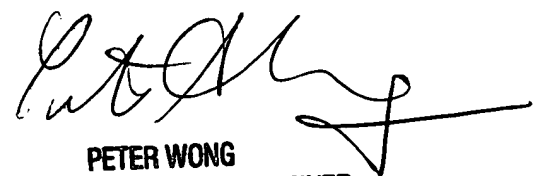
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin King whose telephone number is (703) 305-4571. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephones are unsuccessfully, the examiner's supervisor, Peter Wong can be reached at (703) 305-3477.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose number is (703)-306-5631.



Justin King
August 1, 2002



PETER WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100